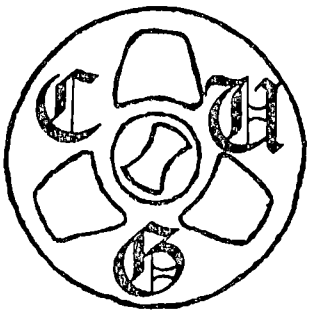

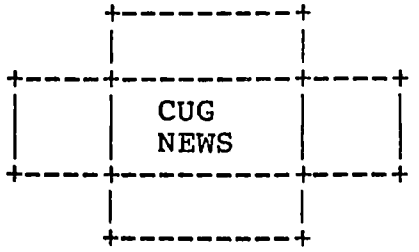

Computer Users' Group
November, 1984 Vol 7 No 3

Many Thanks

I'm sure you noticed our absolutely fantastic new logo last month when it made its debut. The design and implementation are due to the ever talented Yvon; all of us here on the newsletter staff wish to thank him for his time and effort: it is appreciated.

Now for the Bad News...

Once again it is the sad duty of the editor to inform the general public of the resignation of CUG executives. This time, however, only two executive are leaving. Both Yvon Bourdeau and Lorna Fallavollita were forced to resign due to an excessive commitment to both work and school that left them no time to fulfill CUG obligations.

Now for the fun part! The vacancies left by our dear departed executives must be filled; of course you realize, this means by-elections! The positions that are open are secretary and executive officer; details about the by-elections will be forthcoming. If I were you, I would think about the prospects of being able to put some extracurricular activities on my CV. Joining the executive of CUG is a chance to make a difference in the wonderful world of Concordia Computing.

The Link

No, we don't mean our competition... we refer to the file transfer link between the Cyber 835 and the Hall 825. The link was actually established in late September, but software problems forced it to be taken out of service. For weeks the Computer Centre promised to re-establish the link Real Soon Now and, as of this writing, it's finally back up.

So what does it mean to you? It's a way of transferring files back and forth between the two Cybers. Who can use it? Anyone who has access to at least one account on each machine. How do you use it? Stand back, here come the instructions:

The link is accessible via batch jobs; you don't really move a file across--what you actually do is submit a job which runs on the other machine and saves a file. The following procedure assumes that you're logged on to an 835 terminal and that you wish to move a file to the 825: First you must edit the file to be moved. Nothing fancy is required, just insert the following lines at the TOP of your file. Note that text between {braces} is there for explanation only--don't type it! Also anything in lower case can be changed to anything suitable to you:

```
xferjob.                {job name}
USER,account,pass.      {use your 825 account and password!}
COPY,,file.             {name of a file to be saved on the 825}
SAVE,file.              {or REPLACE if you prefer!}
*EOR
```

Okay, now that you've fixed up your file, you initiate the actual transfer via the command ROUTE,file,ST=M03,DC=TO. Warning: the route file cannot be the primary file. The filename you use on the ROUTE command is NOT necessarily the same as the one used above on the COPY and SAVE statements. The ROUTE file is the name of the file to be moved as it exists on the 835; the filename used with COPY and SAVE is the name under which you want to save the file on the 825. They may be the same, but they don't have to be.

So you want to transfer the other way? No problem, the procedure is almost identical. Just log on to an 825 terminal, proceed as above, but make two changes: The account and password which must be specified on the USER statement should be those on your 835 account, and on the ROUTE command you need ST=M01 instead of M03.

Happy data transfers to all...

Manual Aid

One established fact of computing is that nobody knows everything. Another one is that strange things sometimes happen. Combine these two and you get some very perplexing problems. The answers to these problems can often be found in the various manuals for the languages and operating systems that you are using. CUG has an up-to-date set of manuals available in the office for your use. We have manuals on both the VAX and the Cybers for the operating system and the various languages implemented on the machines. Even as we speak, CUG is aquiring manuals for the IBM PCs: including DOS and Basic. As they say, "When all else fails, read the manual. Usually all else fails because you didn't...".

Periodicals

Due to the generosity of some very nice people within the Computer Centre (Messrs. John Woodrow and Craig Buchanan, to be precise), CUG has acquired an extensive collection of back issues of periodicals in the field of computing. These include such interesting titles as Datamation, Computing Canada, and the ever-popular Byte magazine... The collection is available in our office to all CUG members. Feel free to come in and browse through it--find out what's happening in the real world of computing...

Good to the Last Drop

Coffee. The magic elixer of life. Better than sex. All of these things are now available at the ever-popular CUG office (H-983) at an outrageously modest cost. The coffee that is.

For a mere twenty-five cents you can now enjoy a fresh cup of coffee to help you stay awake longer at the terminal and get your assignment done. Now that the end of the semester is at hand, we figure that a lot of people will need a caffeine fix to keep them going. Courtesy of the kind people at CUSA, CUG now has its very own coffee machine and we will be giving it away at a very affordable price.

ACM?

ACM, for those who are seeing the word for the first time, is the "Association for Computing Machinery". ACM is a professional association. You probably wonder why we have some posters of the ACM in our display case. Well, it's all part of our role of promoting computer usage at Concordia; ACM is a valuable organization for all computer science students, as well as anyone else who expects to work with computers somewhere out in the "real world". There is currently no local student chapter of ACM, so CUG is acting as a first line of information for anyone who wishes to learn about or join this

organization.

CUG General Assembly

On Friday, October 26, CUG held its second general assembly of the year. This one was not very well attended; in fact, the lack of general interest helped to demonstrate that computer people are among the most apathetic in the university. Anyway, to fill you in on what you missed, we decided on several important issues:

The meeting opened up with President Steven Winikoff welcoming all those present and explaining what CUG is all about. He mentioned our POD service, the seminars we gave at the beginning of the semester as well as this humble newsletter. The first major item on the agenda was that of automatic membership in CUG to any undergraduate at Concordia who holds a computer account. It has long been an objective of this executive to make this idea come true; the Judicial Board brought it to our attention that our goal would be very easily accomplished. We could hold a meeting of the entire membership and put the matter to a vote. If the vote passed, then we could proclaim that any undergrad holding an account would automatically become a member. Well, we held a vote and the motion was passed. If you are reading this, you are probably a member of CUG, like it or not.

The next item was Concordia Conference 84-85 which is scheduled for the end of January. Details of this massive engineering and computer science conference were given, then a general appeal for volunteers. Next, those present were informed of the existence of a micro buyers group named AXSES, also that AXSES is looking for students to work as consultants for businesses trying to use micros. If you are interested, drop by the office. Moving along, we discussed topics that students would be interested in for our seminar program next semester. We also discussed ways to heighten CUG's profile amongst non-computer science students, especially engineering and commerce students.

Finally, the humble editor of the newsletter made a frantic appeal for articles on anything.

Computer Centre Open Meeting

The long awaited Open Meeting of the Computer Centre was finally held on the 21st of November, for those who didn't read the banners posted on the 9th floor or the memo sent to them. At the meeting we saw mostly people from the Computer Centre and over 50% of the CUG executive. There were also a couple of professors and graduate students. All in all a fairly small meeting compared to the one held 2 years ago. The meeting began with John Woodrow welcoming the people present and beginning with the agenda. He then described the current computing facilities and the recent changes at the Computer Centre. Ivan Fuchs spoke about the future of computing at Concordia, and the directions in which the Centre hopes to evolve. The following changes were mentioned, but are of course subject to financial constraints (Translation: be patient!): installation of another VAX 11/750 (no date specified), a high-speed communications link between all the systems currently at Concordia, an upgrade in the central facilities (speed and equipment), an IBM mainframe on campus, and a commitment to a micro-computer network. Ultimately, Mr. Woodrow returned to give some statistics concerning overall system usage over the last four years, from the point of view of both cost and total system utilization. He also informed us of the extended operating hours for the end of the semester. Then came the usual question period, which lasted about 45 minutes.

In conclusion, nothing very new

was exposed except for the following: currently a feasibility study is being made for a SGW-wide local area network; also we should see a complete file sharing system appearing in early '85. A print queue monitor for the Cyber 825 should be making its appearance in a couple of weeks from now.

PC Madness

Remember way back when I sounded a cautionary note about potential overload of the IBM PC network at SGW? Well, there are signs that all my worst fears will come true. Due to some very bad assignment co-ordination by various professors, there are at least three major projects or assignments due in the last week of class -- all using the PCs. The line-ups have already shown signs of insanity when a single Basic class has an assignment due, never mind the impending project for Files and Databases (using Knowledgeman), Computer Networks and Microcomputer Applications in Business (both using BASIC). Those are only the ones I am aware of. Surely one of the BASIC or Assembly courses will have an assignment due that week.

Perhaps it is too late to save this semester. It has been one where the use of the PCs has been very poorly managed: either the lab was totally empty or the wait was an hour and a half even if you were next in line. The question is: who is to blame? It is very easy to lay it all on the Computer Centre, but they do not set the assignment dates. Neither does the Computer Science department budget the amount to be spent on aquiring the machines. The blame lies squarely in the laps of both of them. The madness is due to a total lack of co-ordination amongst professors on assignment scheduling. The total lack of planning with the Computer Centre on the availability of PCs is disgusting. In general, it is a job very badly done. Perhaps if the Computer Centre and the various departments could work together to plan the use of the PCs during the course of the semester, there would be a a more even distribution of utilization.

An 825 Story...

To put it kindly, the Cyber 825 has been having some problems of late. To put it rather less kindly... the situation was severe enough to prompt a group of students to begin circulating a petition, which they then asked CUG to administer. Since it's part of our mandate to help with such things, we were glad to do so.

The petition (actually more of an open letter, really) points out the problems students are facing on the 825. It reminds the Computer Centre that the state of the machine during the months of September and October was far below expectations for a high-quality university computation centre. The major problems mentioned were the following: terminal line-ups are often long, and the software is unstable; the machine starts doing its yo-yo impression every so often (you know, a situation in which it's up, then down, then back up, then back down, then...) The FUSE editor seems to abort unexpectedly at times, without allowing file recovery. At other times, JEF seems to forget to keep the updated version of edited files...

Quite a few people have already signed the petition; the number of signatures obtained to date is already too large to be dismissed out of hand -- the more so since it points out some very real problems in the running of the 825. It should help the Centre to realize that students are concerned, and care about the quality of available computing resources.

If you use the Cyber 825 and if you feel that any or all of the above problems seriously affect you, then you are more than welcome to visit us in our office and add your own signature to our growing

collection.

...The Good Old Days

It is only fair to add some remarks to balance the story of the Cyber 825. Certainly there are problems at present; yet things were worse once upon a time. The trend (believe it or not!) is toward overall improvement...

Most Cyber 825 users are students in their first or second year of computing at Concordia. They haven't been here long enough to remember the bad old days of the 1982-83 academic year... It is primarily to these people that I address the following:

First of all: as difficult as it may be to believe, you have access to the most extensive and reliable computing facilities provided by Concordia at any time in the last 4 years (that being the limit of this author's personal experience at Concordia). That there are still problems is not in doubt; no-one is more aware than I of the communications problems between the Computer Centre and the rest of the university. I'm also aware that the Centre is striving to overcome these problems; they KNOW things are far from perfect, and they're doing what they can. When you're waiting for a terminal, be glad that you can be assured of getting one in less than an hour and a half. Yes, Virginia, 90-minute waits for Cyber terminals were quite common two years ago... When the 825 is temporarily down, you can at least be sure it will be fixed soon. You can even see the analysts working on it in room H-927-4, a form of feedback unavailable on the 835. It's annoying, but if you save your files often you can live with it; again, two years ago things were worse. The 835 was even more unstable then, it was unavailable for much greater lengths at a time, and often there wasn't even anything the Centre could do about it--since many of the problems were in hardware. (Is it necessary to remind you that the 825 didn't exist in those days? Consider yourself reminded.) The 1981-82 academic year was also interesting. In that year there were problems with the text editor FIX which were quite similar to those now experienced with FUSE. (Again, I'll take the time to point out that FUSE didn't exist back then. FIX was THE editor at the time.) FIX would abort unexpectedly; files would be lost; people would scream a lot; we just learned to save every 15 lines or so... This is a habit many of us retain to this day! The point is that we all have tales of trouble and hardship; however, things do improve in time. The key word is patience...

One particular problem is the fact that most students don't like to report problems. Take my word for it--if the Centre doesn't know a problems exists, they can't do anything about it. And if YOU don't report it, they won't know. So whenever you see a system problem occur, go to room H-925. Ask at the window for a "Bug Report" form; fill it out and return it at the window. It's for your own good... Don't assume someone else will report it, because very often they won't. If a problem is reported twice, no harm is done; if it's not reported at all then it certainly won't be solved!

The Computer Centre is not, however, entirely blameless in the whole affair. The overall situation is better than it used to be, but we all know it's far from perfect. One thing in particular that I'd like to see from the Centre is an indication of what they're doing behind the closed doors of the technical support area... Yes, I know they're working on system problems. But I'd like to know what problems they're working on, and how close they are to a solution. As a user, I find it annoying to use an unreliable system; yet I can be far more patient with any particular problem if I know for a fact that the Centre is doing something about it--some positive feedback would be very much appreciated!

- Steven Winikoff

Programming Hints -- Part 4

Finally the ignoramus editor of this monument to yellow journalism has realized my true potential as the next Wirth. This month, I'll basically tackle the same issue as last time, but from a different point of view.

AN ALTERNATE VIEW: Last time I advocated a rather strict interpretation of structured programming; now I would like to look at a problem solving method that is more flexible and a little easier to use given a short deadline. Your program may not be as beautiful as if you had used a very rigid programming method, but it may end up working sooner.

The first step is the same, you design the algorithm you are going to use to write the program. This step requires a good deal of thought and care. The most important thing is to make sure that your general scheme is a valid method for solving the assignment. Be careful that you have taken all possible exceptions and special cases into account when you devise your algorithm. If you are required to do any kind of input checking, this will also have to be taken into account.

After many hours of deep thought, you are now faced with some kind of algorithm and a blank sheet of paper. The first thing to put on that piece of paper is your data structures. While you were working on the algorithm, you should have been simultaneously thinking about suitable structures to represent the information you will be manipulating and that are easily supported by the language you will be using. For example, representing linked lists in Basic is almost as complex as string manipulation in Pascal. Your data structures should easily handle all exceptions in the data as well as not being too complex to use easily. Don't worry, you get better at stuff like this with experience -- doing it properly is as hard as it sounds.

Once you have completed your data structures, you can begin coding you program. The question is: where to begin? Now is where this method deviates from traditional structured programming. What you should do is write the main routine first then the I/O stuff. Sometimes this is difficult to do: you end up with a completely written program but you are not sure if it works. You type it in and run it; it does not work. Is the bug in the processing or are you doing something incorrectly in the I/O? It is very frustrating to discover that everything is working but you are printing incorrectly so it just looked wrong. No wonder you could not find the bug.

Now for the advice: the first routines that you code should be those directly connected with input and output. That way you can be sure that you read in and store your data correctly then print it out as it should look. This way you can be sure that everything is as it should be when you do your processing and when you print, you know that what is on the page is what is in your program.

Once you have the I/O shell of your program completed, you can begin implementing your 'guts' procedures one step at a time. The time is now ripe to begin writing the procedures to do the main processing in the assignment. You may have deduced that you are now in a very good position to verify the correctness of your program one section at a time. Each time you type in a few juicy procedures they can be easily tested. You can run your not-quite-completed program and see if what it is so far is correct. The trick is not to continue until that stage is correct. Continue this process of programming in small pieces until the entire program is done.

REFERENCES: ALGORITHMS + DATA STRUCTURES = PROGRAMS by N. Wirth and PASCAL WITH STYLE by Ledgard, et al.